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10/718,743	11/21/2003	Matias Duarte	325227.07	1792
69316 7590 06/22/2009 MICROSOFT CORPORATION ONE MICROSOFT WAY REDMOND, WA 98052				
EXAMINER SHINGLES, KRISTIE D				
ART UNIT 2444		PAPER NUMBER		
NOTIFICATION DATE 06/22/2009		DELIVERY MODE ELECTRONIC		

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

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# Office Action Summary

**Application No.**

10/718,743

**Applicant(s)**

DUARTE ET AL.

**Examiner**

KRISTIE D. SHINGLES

**Art Unit**

2444

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 06 April 2009.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1, 4-9 and 23-28 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1, 4-9 and 23-28 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/5508)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### **Per Applicant's Request for Continued Examination**

Claims 1, 5, 23, 25 and 26 have been amended.  
Claims 2, 3, 10-22 and 29-40 have been canceled.

Claims 1, 4-9 and 23-28 are pending.

### **Continued Examination Under 37 CFR 1.114**

I. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 4/6/2009 has been entered.

### **Response to Arguments**

II. Applicant's arguments with respect to claims 1 and 23 have been considered but are moot in view of the new ground(s) of rejection.

### **Double Patenting**

III. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference

claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

**IV. Claims 1, 4, 5 and 23-27 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1, 4 and 11 of U.S. Patent No. 7,280,346 and Claims 1, 5-8 and 23-28 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1, 6, 12-15, 17, 22-31 and 33 of U.S. Patent No. 7,187,364.**

Although the conflicting claims are not identical, they are not patentably distinct from each other since the referenced patents and the instant application are claiming common subject matter (a data processing device operable in two orientations with two modes of operation dependent upon a sensor(s) that detect the degree of rotation for the device and activate the corresponding control elements, keys and functions associated with the particular orientation and mode), as outlined in Tables A and B.

Table A.

Instant Application – 10/718,743	Patent – 7,280,346
<p>1. A data processing device comprising:     <b>a plurality of control elements to perform a first plurality of defined functions when the data processing device is in a first operational mode and to perform a second plurality of defined functions when the data processing device is in a second operational mode, wherein:</b>         <b>the first operational mode is associated with a first physical orientation of the data processing device and the plurality of control elements; and</b>         <b>the second operational mode is associated with a</b></p>	<p>1. A data processing apparatus having a memory for storing program code and a processor for processing the program code comprising:     a body having a surface defining a first plane, the body comprising a first user interface including a <b>first plurality of control elements for entering data and performing control operations</b> and a second user interface including a <b>second plurality of control elements for entering data and performing control operations, wherein the first plurality of control elements comprise a keyboard and the second</b></p>

Art Unit: 2444

**second physical orientation of the data processing device and the plurality of control elements**, wherein at least one of the plurality of control elements includes:

a first plurality of glyphs on a corresponding plurality of physical keys of an alphanumeric keyboard, each of the first plurality of glyphs representing a designated one of the first specified functions, the first plurality of glyphs being highlighted by reflecting light from one or more light sources located external to the plurality of physical keys when the data processing device is in the first operational mode; and

a second plurality of glyphs on the plurality of physical keys of the alphanumeric keyboard, each of the second plurality of glyphs representing a designated one of the second specified functions, the second plurality of glyphs being highlighted by a one or more light sources located beneath the plurality of physical keys when the data processing device is in the second operational mode;

wherein the data processing device automatically highlights the first plurality of glyphs when in the first operational mode and automatically highlights the second plurality of glyphs when in the second operational mode;

**a display having a viewable display screen for rendering images generated by the data processing device, the display screen rendering images in a first orientation when the data processing device is in the first operational mode and rendering images in a second orientation when the data processing device is in the second operational mode,**

wherein the images generated by the data processing device include menus and/or user interface elements, and wherein functions performed by the menus and/or user interface elements are modified to reflect switching between the first operational mode and the second operational mode.

#### 23. A data processing device comprising:

**a display for displaying text and graphics;**

a first group of control elements to perform a first plurality of defined functions within a first physical orientation and to perform a second plurality of defined functions within a second physical orientation, wherein the first physical orientation comprises the data processing device and the display rotated substantially ninety degrees in relation to the second physical orientation, wherein at least one of the first group of control elements includes:

a first plurality of glyphs on a corresponding plurality of physical keys of an alphanumeric keyboard, each of the first plurality of glyphs representing a

plurality of control elements comprise a set of control buttons;

**a display having a display area** defining a second plane, the display directly coupled to the data processing apparatus at a pivot point and rotatable around the pivot point in one continuous motion from a first position to a second position, wherein the first plane and second plane are substantially parallel when the display is in the first position and the first plane and the second plane are not parallel when the display is in the second position, wherein the display is substantially inverted when in the second position relative to the first position, **wherein the display is viewable in both the first position and the second position**, wherein an angle between the first plane and the second plane is adjustable over a specified range **when the display is in the second position, and wherein both the first and second plurality of control elements are exposed when the display is in the second position, and wherein only the second plurality of control elements is exposed when the display is in the first position,**

**an operational mode selection module for selecting between a first operational mode and a second operational mode** in response to a plurality of triggering events, said triggering events including:

output from one or more operational mode sensors configured to trigger when the display is rotated from the second position to the first position or from the first position to the second position;

execution of program code from one or more applications currently running on the data processing device; and

manual user input by selecting one or more of the plurality of control elements located within said first or second user interfaces; and

image inversion logic to **invert images on the display responsive to the selected operational mode,**

wherein execution of the program code by the processor causes the operational mode selection module to adjust the functions associated with the first and second plurality of control elements based on the selected operational mode, wherein the first and second plurality of control elements perform a first plurality of defined functions when the data processing apparatus is in the first operational mode and perform a second plurality of defined functions when the data processing apparatus is in the second operational mode.

#### 4. A data processing apparatus comprising:

**a display** defining a first plane and having a viewable area for displaying text and graphics;

Art Unit: 2444

designated one of the first specified functions, the first plurality of glyphs being highlighted by reflecting light from one or more light sources located external to the plurality of physical keys when the data processing device is in the a first operational mode; and

a second plurality of glyphs on the plurality of physical keys of the alphanumeric keyboard, each of the second plurality of glyphs representing a designated one of the second specified functions, the second plurality of glyphs being highlighted by a one or more light sources located beneath the plurality of physical keys when the data processing device is in a second operational mode;

wherein the data processing device automatically highlights the first plurality of glyphs when in the first operational mode and automatically highlights the second plurality of glyphs when in the second operational mode; and

a motion sensor to detect the orientation of the data processing device, wherein the data processing device automatically switches from the first operational mode to the second operational mode in response to the motion sensor detecting the data processing device switching from the first physical orientation to the second physical orientation and wherein text and graphics are rotated ninety degrees as the display is rotated from the first physical orientation to the second physical orientation.

4. The data processing device as in claim 1 wherein each of the first glyphs are positioned on each of the control elements in a first orientation to the first orientation of the data processing device and each of the second glyphs are positioned on each of the control elements in a second orientation corresponding to the second orientation of the data processing device.

5. The data processing device as in claim 4, wherein the first orientation is rotated approximately ninety degrees relative to the second orientation.

24. The data processing device as in claim 23, the device further comprising: a display to render images having a first image orientation associated with the first operational mode and to render images having a second image orientation associated with the second operational mode.

25. The data processing device as in claim 24, wherein the first image orientation is rotated plus or minus ninety degrees with respect to the second image orientation.

a body defining a second plane and having a first user interface including a first plurality of control elements for entering data and performing control operations and a second user interface including a second plurality of control elements for entering data and performing control operations, wherein the first plurality of control elements comprise a keyboard and the second plurality of control elements comprise a set of control buttons;

a display motion mechanism moveably coupling the display directly to the body and rotating the display in one continuous motion from a first position to a second position wherein the first plane and second plane are substantially parallel when the display is in the first position, and the first plane and the second plane are not parallel when the display is in the second position, wherein the display is substantially inverted when in the second position relative to the first position, wherein the display is viewable in both the first position and the second position, wherein an angle between the first plane and the second plane is adjustable over a specified range when the display is in the second position, and wherein both the first and second plurality of control elements are exposed when the display is in the second position, and wherein only the second plurality of control elements is exposed when the display is in the first position,

an operational mode selection module for selecting between a first operational mode and a second operational mode in response to a plurality of triggering events, said triggering events including:

output from one or more operational mode sensors configured to trigger when the display is rotated from the second position to the first position or from the first position to the second position;

execution of program code from one or more applications currently running on the data processing device; and

manual user input by selecting one or more of the plurality of control elements located within said first or second user interfaces; and

image inversion logic to invert images on the display responsive to the selected operational mode,

wherein execution of the program code by the processor causes the operational mode selection module to adjust the functions associated with the first and second plurality of control elements based on the selected operational mode, wherein the first and second plurality of control elements perform a first plurality of defined functions when the data processing apparatus is in the first operational mode and perform a second plurality of defined functions when the data processing apparatus is in the second

Art Unit: 2444

<p>26. The data processing device as in claim 23 wherein the <b>first physical orientation is rotated plus or minus ninety degrees with respect to the second physical orientation.</b></p> <p>27. The data processing device as in claim 23 wherein the <b>first group of control elements include a first group of glyphs representing the first plurality of defined functions and a second group of glyphs representing the second plurality of defined functions.</b></p>	<p><b>operational mode.</b></p> <p>11. A data processing apparatus comprising:  <b>a display defining a first plane and having a viewable area for displaying text and graphics;</b>  <b>a body defining a second plane and having a first user interface including a first plurality of control elements for entering data and performing control operations and a second user interface including a second plurality of control elements for entering data and performing control operations, wherein the first plurality of control elements comprise a keyboard and the second plurality of control elements comprise a set of control buttons;</b>  <b>display motion means moveably coupling the display directly to the body and rotating the display in one continuous motion from a first position to a second position wherein the first plane and second plane are substantially parallel when the display is in the first position, and the first plane and the second plane are not parallel when the display is in the second position, wherein the display is substantially inverted when in the second position relative to the first position, wherein the display is viewable in both the first position and the second position, wherein an angle between the first plane and the second plane is adjustable over a specified range when the display is in the second position, and wherein both the first and second plurality of control elements are exposed when the display is in the second position, and wherein only the second plurality of control elements is exposed when the display is in the first position,</b>  <b>an operational mode selection module for selecting between a first operational mode and a second operational mode in response to a plurality of triggering events, said triggering events including:</b>  <b>output from one or more operational mode sensors configured to trigger when the display is rotated from the second position to the first position or from the first position to the second position;</b>  <b>execution of program code from one or more applications currently running on the data processing device; and</b>  <b>manual user input by selecting one or more of the plurality of control elements located within said first or second user interfaces; and</b>  <b>image inversion logic to invert images on the display responsive to the selected operational mode,</b>  <b>wherein execution of the program code by the processor causes the operational mode selection module</b>  <b>to adjust the functions associated with the first and</b></p>
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	<p><b>second plurality of control elements based on the selected operational mode,</b></p> <p><b>wherein the first and second plurality of control elements perform a first plurality of defined functions when the data processing apparatus is in the first operational mode and perform a second plurality of defined functions when the data processing apparatus is in the second operational mode.</b></p>
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Table B.

<b>Instant Application – 10/718,743</b>	<b>Patent – 7,187,364</b>
<p>1. A data processing device comprising:</p> <p><b>a plurality of control elements to perform a first plurality of defined functions when the data processing device is in a first operational mode and to perform a second plurality of defined functions when the data processing device is in a second operational mode, wherein:</b></p> <p><b>the first operational mode is associated with a first physical orientation of the data processing device and the plurality of control elements; and</b></p> <p><b>the second operational mode is associated with a second physical orientation of the data processing device and the plurality of control elements, wherein at least one of the plurality of control elements includes:</b></p> <p><b>a first plurality of glyphs on a corresponding plurality of physical keys of an alphanumeric keyboard, each of the first plurality of glyphs representing a designated one of the first specified functions, the first plurality of glyphs being highlighted by reflecting light from one or more light sources located external to the plurality of physical keys when the data processing device is in the first operational mode; and</b></p> <p><b>a second plurality of glyphs on the plurality of physical keys of the alphanumeric keyboard, each of the second plurality of glyphs representing a designated one of the second specified functions, the second plurality of glyphs being highlighted by a one or more light sources located beneath the plurality of physical keys when the data processing device is in the second operational mode;</b></p> <p><b>wherein the data processing device automatically highlights the first plurality of glyphs when in the first operational mode and automatically highlights the second plurality of glyphs when in the second operational mode;</b></p> <p><b>a display having a viewable display screen for rendering images generated by the data processing device, the display screen rendering images in a first</b></p>	<p>1, 17, 33. A data processing apparatus comprising:</p> <p><b>a body having a memory for storing program code and data, and a processor for processing the program code and data, and a first group of control elements and a second group of control elements for entering data and performing control operations;</b></p> <p><b>a numeric keypad moveably coupled to the body, the numeric keypad moveable from a first keypad position to a second keypad position in relation to the body, wherein both the first and second groups of control elements are exposed when the numeric keypad is in the second position, and wherein only the second group of control elements are exposed when the numeric keypad is in the first position;</b></p> <p><b>a display moveably coupled to the numeric keypad, the display moveable from a first display position to a second display position in relation to the numeric keypad, wherein the numeric keypad is not exposed when the display is in the first position and wherein the numeric keypad is exposed when the display is in the second position; and the data processing apparatus further comprising:</b></p> <p><b>a switch configured to trigger when the numeric keypad is moved between the first position and the second position; and</b></p> <p><b>image inversion logic to invert images on the display responsive to the switch triggering.</b></p> <p>6, 22. The data processing apparatus as in claim 1 wherein the first group of control elements comprise a keyboard.</p> <p>11, 27. The data processing apparatus as in claim 1 wherein a surface of the display is parallel to a surface when the display is in the first display position and wherein the surface of the display and the surface of the numeric keypad are not parallel</p>



orientation when the data processing device is in the first operational mode and rendering images in a second orientation when the data processing device is in the second operational mode,

wherein the images generated by the data processing device include menus and/or user interface elements, and wherein functions performed by the menus and/or user interface elements are modified to reflect switching between the first operational mode and the second operational mode.

23. A data processing device comprising:

a display for displaying text and graphics;

a first group of control elements to perform a first plurality of defined functions within a first physical orientation and to perform a second plurality of defined functions within a second physical orientation, wherein the first physical orientation comprises the data processing device and the display rotated substantially ninety degrees in relation to the second physical orientation, wherein at least one of the first group of control elements includes:

a first plurality of glyphs on a corresponding plurality of physical keys of an alphanumeric keyboard, each of the first plurality of glyphs representing a designated one of the first specified functions, the first plurality of glyphs being highlighted by reflecting light from one or more light sources located external to the plurality of physical keys when the data processing device is in the first operational mode; and

a second plurality of glyphs on the plurality of physical keys of the alphanumeric keyboard, each of the second plurality of glyphs representing a designated one of the second specified functions, the second plurality of glyphs being highlighted by a one or more light sources located beneath the plurality of physical keys when the data processing device is in a second operational mode;

wherein the data processing device automatically highlights the first plurality of glyphs when in the first operational mode and automatically highlights the second plurality of glyphs when in the second operational mode; and

a motion sensor to detect the orientation of the data processing device, wherein the data processing device automatically switches from the first operational mode to the second operational mode in response to the motion sensor detecting the data processing device switching from the first physical orientation to the second physical orientation and wherein text and graphics are rotated ninety degrees as the display is rotated from the first physical orientation to the second physical orientation.

when the display is in the second display position.

12, 28. The data processing apparatus as in claim 1 wherein the numeric keypad is coupled to the body at a pivot point and rotatable around the pivot point from the first keypad position to the second keypad position in relation to the body.

13, 29. The data processing apparatus as in claim 12 further comprising: a switch configured to trigger when the numeric keypad is rotated between the first position and the second position; and image inversion logic to invert images on the display responsive to the switch triggering.

14, 30. The data processing apparatus as in claim 1 having a first operational mode and a second operational mode associated with the first keypad position and the second keypad position, respectively.

Art Unit: 2444

<p>5. The data processing device as in claim 4, wherein <b>the first orientation is rotated approximately ninety degrees relative to the second orientation.</b></p> <p>24. The data processing device as in claim 23, the device further comprising: <b>a display to render images having a first image orientation associated with the first operational mode and to render images having a second image orientation associated with the second operational mode.</b></p> <p>25. The data processing device as in claim 24, wherein <b>the first image orientation is rotated plus or minus ninety degrees with respect to the second image orientation.</b></p> <p>26. The data processing device as in claim 23 wherein <b>the first physical orientation is rotated plus or minus ninety degrees with respect to the second physical orientation.</b></p> <p>27. The data processing device as in claim 23 wherein <b>the first group of control elements include a first group of glyphs representing the first plurality of defined functions and a second group of glyphs representing the second plurality of defined functions.</b></p> <p>28. The data processing device as in claim 27 wherein the data processing device <b>highlights the first group of glyphs when in the data entry mode and highlights the second group of glyphs when in the telephony mode.</b></p>	
<p>6. The data processing device as in claim 1, wherein the first operational mode comprise: <b>a data entry mode and wherein the second operational mode comprises a telephony mode wherein the data processing device performs telephony-based functions.</b></p>	<p>9, 25. The data processing apparatus as in claim 1 wherein <b>the second display position is associated with a telephony mode of operation of the data processing apparatus and wherein the numeric keypad is a telephony keypad.</b></p>
<p>7. The data processing device as in claim 6, wherein when <b>in the telephony mode, the second specified function for a group of the control elements is that of a numeric keyboard for entering telephone numbers.</b></p>	<p>10, 26. The data processing apparatus as in claim 9 wherein <b>the first keypad position is associated with the telephony mode of operation.</b></p>
<p>8. The data processing device as in claim 7, wherein when <b>in the data entry mode, the first specified function for a group of the control elements is that of a cursor control keypad.</b></p>	<p>15, 31. The data processing apparatus as in claim 14 wherein the second operational mode comprises <b>a data entry mode in which text may be entered via the first group of control elements.</b></p>

**Claim Rejections - 35 USC § 112**

- V. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

- VI. **Claims 5 and 23 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.**

The terms "approximately" in claim 5 and "substantially" in claim 23 are relative terms which render the claims indefinite. The terms are not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention. Examiner suggest using the terms cited in Applicant's specification as an alternative to these relative terms, the specification uses "parallel", "co-planar" and "perpendicular" to describe the orientation position of the device display (see Specification paragraphs 0074, 0086 and 0089).

**CLAIM REJECTIONS - 35 USC § 103**

- VII. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

- VIII. **Claims 1, 4 – 8 and 23-28 are rejected under 35 U.S.C. 103(a) as being unpatentable over *Finke-Anlauff* (US 6,850,226) in view of *Saارين* (US 6,882,335) and *Muurinen* (US 5,408,060).**

- a. **Per claim 1, *Finke-Anlauff* teaches a data processing device comprising:**

- a plurality of control elements to perform a first plurality of defined functions when the data processing device is in the first operational mode and to perform a second plurality of defined function when the data processing device is in the second operational mode, wherein (*Figures 1-7, col.1 line 38-col.2 line 3, col.3 line 41-col.4 line 36—provision for control elements that perform specific functions in a telephone mode, PDA mode and camera mode*),
- the first operational mode is associated with a first physical orientation of the data processing device and the plurality of control elements and the second operational mode is associated with a second physical orientation of the data processing device and the plurality of control elements (*Figures 1-7, col.1 line 38-col.2 line 3, col.3 line 41-col.4 line 36—the telephone mode is associated with one sliding orientation of the display screen and the PDA mode is associated with a different sliding orientation of the display screen*);
- a display having a viewable display screen for rendering images generated by the data processing device, the display screen rendering images in a first orientation when the data processing device is in the first operational mode and rendering images in a second orientation when the data processing device is in the second operational mode (*display screen shows and rotates images based on the orientation—Figures 7 and 8, col.1 line 40-col.2 line 3, col.3 lines 27-63, col.4 lines 22-36*);
- wherein the images generated by the data processing device include menus and/or user interface elements, and wherein functions performed by the menus and/or user interface elements are modified to reflect switching between the first operational mode and the second operational mode (*display image is automatically adjusted and rotated to correspond with the detected device display orientation—col.1 line 40-col.2 line 3, col.3 lines 27-63, col.4 lines 22-36*).

*Finke-Anlauff* further teaches an actuation switch that triggers the applications associated with each screen orientation (*col.4 lines 23-37*), yet fails to explicitly teach wherein at least one of the plurality of control elements includes: a first plurality of glyphs on a corresponding plurality of physical keys of an alphanumeric keyboard, each of the first plurality of glyphs representing a designated one of the first specified functions, the first plurality of glyphs being highlighted by reflecting light from one or more light sources located external to the plurality of physical keys when the data processing device is in the first operational mode and

a second plurality of glyphs on the plurality of physical keys of the alphanumeric keyboard, each of the second plurality of glyphs representing a designated one of the second specified functions, the second plurality of glyphs being highlighted by a one or more light sources located beneath the plurality of physical keys when the data processing device is in the second operational mode, wherein the data processing device automatically highlights the first plurality of glyphs when in the first operational mode and automatically highlights the second plurality of glyphs when in the second operational mode. However, *Saarin* teaches a graphic symbol or icon associated with the operational mode and orientation of the device, wherein the symbol/icon is activated and displayed in response to the portrait/landscape switching signal corresponding to the portrait/landscape mode of the device (*col.5 lines 13-38, col.9 lines 34-47, col.9 line 60-col.10 line 15, col.16 lines 5-40*).

*Saarin* further teaches that the particular symbols on the keyboard are activated using an infrared beam matrix when the display is configured in the landscape or portrait mode (*col.15 line 65-col.16 line 12*). Nonetheless, *Muurinen* explicitly teach illuminating specific symbols or area of a key on a keyboard depending on the operational mode of the device and the source of the light received by the device, wherein light from a source external to the keyboard illuminates certain symbols on a key while light from an LED or background light internal to the keyboard (*Figures 11-13, col.6 lines 7-41*).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of *Finke-Anlauff* with *Saarin* and *Muurinen* for the purpose of providing glyphs/indicators associated with the respective orientation, operating mode and light source of the device; because this allows the user to visually recognize the key

functions that are active or inactive in the different operation modes/orientations by using illumination from the different light sources (external and internal to the device) to illuminate various areas/symbols/glyphs associated with the different functions of the keys.

- b. **Per claim 23, *Finke-Anlauff*** teaches a data processing device comprising:
- a display for displaying text and graphics (*Figures 7 and 8, col.1 lines 59-66—display screen*);
  - a first group of control elements to perform a first plurality of defined functions within a first physical orientation and to perform a second plurality of defined functions within a second physical orientation, wherein the first physical orientation comprises the data processing device and the display rotated substantially ninety degrees in relation to the second physical orientation, wherein at least one of the first group of control elements includes: (*Figures 1-7, col.1 line 38-col.2 line 3, col.3 lines 2-40 41, col.4 lines 30-36—provision for control elements that perform specific functions in a telephone mode, PDA mode and camera mode based on the orientation of the display screen when the device and display are rotated 90 degrees*),
  - a motion sensor to detect the orientation of the data processing device, wherein the data processing device automatically switches from the first operational mode to the second operational mode in response to the motion sensor detecting the data processing device switching from the first physical orientation to the second physical orientation and wherein text and graphics are rotated ninety as the display is rotated from the first physical orientation to the second physical orientation (*col.3 lines 27-63, col.4 lines 30-36—sensor for detecting the orientation of the device wherein the display orientation is automatically adjusted and rotated to correspond with the detected device display orientation*).

*Finke-Anlauff* further teaches an actuation switch that triggers the applications associated with each screen orientation (*col.4 lines 23-37*), yet fails to explicitly teach wherein at least one of the first group of control elements includes: a first plurality of glyphs on a corresponding plurality of physical keys of an alphanumeric keyboard, each of the first plurality of glyphs representing a designated one of the first specified functions, the first plurality of glyphs being highlighted by reflecting light from one or more light sources located external to

the plurality of physical keys when the data processing device is in the first operational mode and a second plurality of glyphs on the plurality of physical keys of the alphanumeric keyboard, each of the second plurality of glyphs representing a designated one of the second specified functions, the second plurality of glyphs being highlighted by a one or more light sources located beneath the plurality of physical keys when the data processing device is in a second operational mode, wherein the data processing device automatically highlights the first plurality of glyphs when in the first operational mode and automatically highlights the second plurality of glyphs when in the second operational mode. However, *Saarinén* teaches a graphic symbol or icon associated with the operational mode and orientation of the device, wherein the symbol/icon is activated and displayed in response to the portrait/landscape switching signal corresponding to the portrait/landscape mode of the device (*col.5 lines 13-38, col.9 lines 34-47, col.9 line 60-col.10 line 15, col.16 lines 5-40*).

*Saarinén* further teaches that the particular symbols on the keyboard are activated using an infrared beam matrix when the display is configured in the landscape or portrait mode (*col.15 line 65-col.16 line 12*). Furthermore, *Muurinen* explicitly teach illuminating specific symbols or area of a key on a keyboard depending on the operational mode of the device and the source of the light received by the device, wherein light from a source external to the keyboard illuminates certain symbols on a key while light from an LED or background light internal to the keyboard (*Figures 11-13, col.6 lines 7-41*).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of *Finke-Anlauff* with *Saarinén* and *Muurinen* for the purpose of providing glyphs/indicators associated with the respective orientation, operating

mode and light source of the device; because this allows the user to visually recognize the key functions that are active or inactive in the different operation modes/orientations by using illumination from the different light sources (external and internal to the device) to illuminate various areas/symbols/glyphs associated with the different functions of the keys.

c. **Per claim 4, *Finke-Anlauff* with *Saarinen* and *Muurinen*** teach the data processing device in claim 1, *Saarinen* further teaches wherein each of the first glyphs are positioned on each of the control elements in a first orientation corresponding to the first orientation of the data processing device and each of the second glyphs are positioned on each of the control elements in a second orientation corresponding to the second orientation of the data processing device (*col.16 lines 5-29, col.5 lines 13-38; Muurinen— Figures 11-13, col.6 lines 7-41*). It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of *Finke-Anlauff* with *Saarinen* and *Muurinen* to provide multiple glyphs on a control element for the different orientations, because this extends the usability of a control element by making it multifunctional and useable in both orientations, instead of having to provide additional control elements on the device for each orientation which would require additional space on the device.

d. **Per claim 5, *Finke-Anlauff* with *Saarinen* and *Muurinen*** teach the data processing device as in claim 4, *Finke-Anlauff* further teaches wherein the first orientation is rotated approximately ninety degrees relative to the second orientation (*first and second orientations differ by ninety degree rotation: Figures 1-7, col.2 line 58-col.3 line 40; Saarinen—Figures 2-4, col.8 lines 51-53*).



c. **Per claim 6**, *Finke-Anlauff* with *Saarinen* and *Muurinen* teach the data processing device as in claim 1, *Finke-Anlauff* further teaches wherein the first operational mode comprise: a data entry mode and wherein the second operational mode comprises a telephony mode wherein the data processing device performs telephony-based functions (*alphabet characters for data entry mode, number characters for telephone mode: Figures 1-7, col.1 line 38-col.2 line 3, col.2 line 36-47; Saarinen—col.10 lines 34-58; Muurinen—col.2 lines 56-67*).

f. **Per claim 7**, *Finke-Anlauff* with *Saarinen* and *Muurinen* teach the data processing device as in claim 6, *Finke-Anlauff* further teaches wherein when in the telephony mode, the second specified function for a group of the control elements is that of a numeric keyboard for entering telephone numbers (*numeric character keyboard for telephone mode: Figure 1, col.1 lines 59-63, col.3 lines 54-60; Saarinen—col.10 lines 49-51; Muurinen—col.2 lines 56-67*).

g. **Per claim 8**, *Finke-Anlauff* with *Saarinen* and *Muurinen* teach the data processing device as in claim 7, *Finke-Anlauff* further teaches wherein, when in the data entry mode, the first specified function for a group of the control elements is that of a cursor control keypad (*cursor control: Figures 3-4, col.1 lines 38-58, col.2 lines 36-57; Saarinen—col.10 lines 52-55*).

h. **Per claim 24**, *Finke-Anlauff* with *Saarinen* and *Muurinen* teach the data processing device as in claim 23, *Finke-Anlauff* further teaches the device further comprising: a display to render images having a first image orientation associated with the first operational mode and to render images having a second image orientation associated with the second operational mode (*display image is automatically adjusted and rotated to correspond with the detected device display orientation: col.1 line 40-col.2 line 3, col.3 lines 27-41, col.4 lines 22-36; Saarinen—col.16 lines 5-29, col.5 lines 13-38*).

i. **Per claim 25**, *Finke-Anlauff* with *Saarinen* and *Muurinen* teach the data processing device as in claim 24, *Finke-Anlauff* further teaches wherein the first image orientation is rotated plus or minus ninety degrees with respect to the second image orientation (*display image is automatically adjusted and rotated ninety degrees to correspond with the detected device display orientation: col.1 line 40-col.2 line 3, col.3 lines 27-41, col.4 lines 30-36*).

j. **Per claim 26**, *Finke-Anlauff* with *Saarinen* and *Muurinen* teach the data processing device as in claim 23, *Finke-Anlauff* further teaches wherein the first physical orientation is rotated plus or minus ninety degrees with respect to the second physical orientation (*first and second orientations differ by ninety degree rotation: Figures 1-7, col.1 line 40-col.2 line 3, col.3 lines 27-41; Saarinen—Figures 2-4, col.8 lines 51-53*).

k. **Per claim 27**, *Finke-Anlauff* with *Saarinen* and *Muurinen* teach the data processing device as in claim 23, *Saarinen* further teaches wherein the first group of control elements include a first group of glyphs representing the first plurality of defined functions and a second group of glyphs representing the second plurality of defined functions (*col.16 lines 5-29, col.5 lines 13-38; Muurinen—Figures 11-13, col.6 lines 7-41*). It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of *Finke-Anlauff* with *Saarinen* and *Muurinen* to provide multiple glyphs on a control element for the different orientations, because this extends the usability of a control element by making it multifunctional and useable in both orientations, without having to provide additional control elements on the device for each orientation which would require additional space on the device.

I. **Per claim 28**, *Finke-Anlauff* with *Saarinen* and *Muurinen* teach the data processing device as in claim 27, *Saarinen* further teaches wherein the data processing device highlights the first group of glyphs when in the data entry mode and highlights the second group of glyphs when in the telephony mode (*illuminating alphabet characters for data entry mode, number characters for telephone mode: Figures 11-13, col.2 lines 56-67, col.6 lines 7-41; Saarinen—col.5 lines 13-38, col.10 lines 34-58, col.16 lines 5-29*). It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of *Finke-Anlauff* with *Saarinen* and *Muurinen* for the purpose of providing glyphs/indicators associated with the respective orientation, operating mode and light source of the device; because this allows the user to visually recognize the key functions that are active or inactive in the different operation modes/orientations by using illumination from the different light sources (external and internal to the device) to illuminate various areas/symbols/glyphs associated with the different functions of the keys.

IX. **Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over *Finke-Anlauff* (US 6,850,226) in view of *Saarinen* (US 6,882,335) and *Muurinen* (US 5,408,060) in further view of *Enger et al* (US 2005/0020325).**

**Per claim 9**, *Finke-Anlauff* with *Saarinen* and *Muurinen* teach the data processing device as in claim 1 as applied above. *Finke-Anlauff* with *Saarinen* and *Muurinen* all teach control elements including keyboard/keypad input comprising buttons, yet fail to explicitly teach wherein the plurality of control elements includes a control wheel for moving a graphical cursor element when rotated in either the first operational mode and/or the second operational mode. However, *Enger et al* teaches various input types including a trackball, joystick, and/or rotating

dials for use in the different operational modes of the device (*page 5-6 paragraph 0052*). It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of *Finke-Anlauff*, *Saarin* and *Muurinen* with *Enger et al* in order to provide additional control elements for input in order to give the user better control and ease when using the device.

#### Conclusion

X. The prior art made of record and not relied upon is considered pertinent to Applicant's disclosure: Duarte et al (7262761), (7221559), and (7071916).

**Examiner's Note:** Examiner has cited particular columns and line numbers in the reference(s) applied to the claims above for the convenience of the applicant. Although the specified citations are representative of the teachings of the art and are applied to specific limitations within the individual claim, other passages and figures may apply as well. It is respectfully requested from the Applicant in preparing responses, to fully consider the references in entirety as potentially teaching all or part of the claimed invention, as well as the context of the cited passages as taught by the prior art or relied upon by the examiner. Should Applicant amend the claims of the claimed invention, it is respectfully requested that Applicant clearly indicate the portion(s) of Applicant's specification that support the amended claim language for ascertaining the metes and bounds of Applicant's claimed invention.

XI. Any inquiry concerning this communication or earlier communications from the examiner should be directed to KRISTIE D. SHINGLES whose telephone number is (571)272-3888. The examiner can normally be reached on Monday 9:00am-6:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, William Vaughn can be reached on 571-272-3922. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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**/Kristie D. Shingles/**  
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